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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/684,794

10/14/2003

Jeffrey L. Mackey

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09/21/2004

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EXAMINER

NGUYEN, HUNG

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,794

Applicant(s)

MACKEY ET AL.

Examiner

Hung Henry V Nguyen

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-29, 48 and 49 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,9-13,16-18,30,31,33,34,37-41 and 43-45 is/are rejected.
- 7) ☒ Claim(s) 3,4,6-8,14,15,19-26,32,35,36,42,46 and 47 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2,4/04 and 10/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2, 5, 9-13, 16-18, 30-31, 33-34, 37-41, and 43-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Sandstrom (U.S.Pat. 6,504,644).

The applicant is reminded that the claimed subject matter to examination will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not be read into the claims. In re Yamamoto, 740 F. 2d 1569, 1571, 222 USPO 934, 936 (Fed.Cir. 1984). With this in mind, the rejection herein will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitation that is not in the claims or any argument that is irrelevant to or does not relate to any specific claimed language will not be warranted.

With respect to claims 1, 10-11, 16-18, 30-31, 34, 37-41 and 43-45, Sandstrom discloses an apparatus and corresponding method for controlling characteristics of radiation directed to a microworkpiece and comprising all basic features of the instant claims such as: a workpiece support (605) having a support surface positioned to carry a microlithographic workpiece (see col.14, lines 14-17); a EUV light source positioned to direct a radiation beam along a radiation path toward the workpiece support, the radiation beam having an amplitude distribution, a phase distribution and a polarization distribution; and SML can be regarded as claimed “an adaptive structure” positioned in the radiation path between the source of radiation and the workpiece support, the SLM includes a plurality of individually addressable pixel elements, at least one of these pixel elements includes a layer of electro optical material having a birefringence that varies according to an applied voltage. Each of the plurality of pixel elements is selectively configurable to change form one state to any of a plurality of other states and to modulate both of an amplitude and a phase of radiation that is incident on the pixel element (see col.3, lines 35-67; figures 1-4) and a controller (607) operatively coupled to “the adaptive structure” to direct the elements of the adaptive structure to change from the one state to the one of the plurality of other states.

As to claims 2, Sandstrom teaches the controller (607) is electrically coupled to each of the elements and is configured to apply a variable voltage to each element to independently change a stage of each element from one state to any a plurality of available other states (see figure 1).

As to claim 3, Sandstrom teaches the elements of the adaptive structure (SLM) having a non-time varying transmissibility in each of the states.

With respect to claims 9 and 33, Sandstrom discloses the adaptive structure having a plurality of electrically addressable elements arranged in an array of column and rows (see figure 2).

Allowable Subject Matter

3. Claims 3-4, 6-8, 14-15, 19-26, 32, 35-36, 42, 46-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 27-29, 48-49 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: the prior art either alone or in combination, neither discloses nor makes obvious the combination of an apparatus and corresponding method for controlling characteristic of radiation directed to a microlithographic workpiece, comprising a reticle, an adaptive structure and a controller with particular structures and functions, as recited in the instant claims of the present invention.

Prior Art Made of Record

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Johnson (U.S.Pat. 6,498,685); and Shiraishi et al (U.S.Pat. 6,710,854) discloses exposure apparatuses and have been cited for technical background.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Hung Henry V Nguyen', with a long horizontal line extending to the right.

Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
9/4/05